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ABSTRACT OF THE DISCLOSURE

A piezoelectric/electrostrictive film element formed at low temperature using electrophoretic deposition by method which includes the steps of: dissolving or dispersing the raw material of constituent ceramic elements in a solvent or a dispersion medium; adding citric acid into the solution or the dispersed mixture; obtaining ultrafine ceramic oxide powder of particle size less than 1 μm with uniform particle diameter size distribution by forming ceramic oxide by a nonexplosive oxidative-reductive combustion reaction by thermally treating the mixed solution at 100-500°C; preparing a suspension by dispersing the ultrafine ceramic oxide powder in an organic dispersant; preparing ceramic sol solution by dissolving constituent ceramic elements of the same or similar constituent as the ultrafine ceramic oxide powder in water or an organic solvent; mixing the suspension with the ceramic sol solution; forming a piezoelectric/electrostrictive film element by submerging a substrate into this mixture and then by performing electrophoretic deposition; and thermally treating the piezoelectric/electrostrictive film element at 100-600°C.